

in the interior, which if exhausted, will cause the crust to collapse, affect the motion of the earth in its orbit, cause it to lose its place among the heavenly bodies, and fall in pieces.

Another writer thinks that boring should be prohibited by stringent laws. He, too, thinks there is a possibility of an explosion, though from another cause. Should a disaster occur, "the country along the gas-belt from Toledo through Ohio, Indiana, and Kentucky will be ripped up to the depth of twelve or fifteen hundred feet, and flopped over like a pancake, leaving a chasm through which the waters of Lake Erie will come howling down, filling the Ohio and Mississippi Valleys, and blotting them out forever!"

Still another theorist has investigated the gas-wells with telephones and delicate thermometers, and he announces startling discoveries. He distinguished sounds like the boiling of rocks, and estimated that a mile and a half or so beneath Findlay, the temperature of the earth is 3,500°. This scientist says an immense cavity exists under Findlay, and that here the gas is stored; that a mile below the bottom of the cavity is a mass of roaring, seething flames, which is gradually eating into the rocky floor of the cavern and thinning it. Eventually the flames will reach the gas, a terrific explosion will ensue, and Findlay and its neighborhood will be blown skyward in an instant. Such are some of the theories gravely propounded in respect to this new fuel.

—Ex.

#### Work of a Railway superintendent.

The superintendent of a railway in this country who has, let us say, three hundred miles of road in his charge, has perhaps as great a variety of occupation, and as many different questions of importance depending upon his decision as any other business professional man in the community. Fully one-half of his time will be spent out of doors looking after the physical condition of his track, masonry, bridges, stations, buildings of all kinds. Concerning the repair or renewal of each he will have to pass judgment. He must know intimately every foot of his track, and in cases of emergency or accident, know just what recourses he can depend upon, and how to make them most immediately useful. He will visit the shops and round-houses frequently, and will know the construction and daily condition of every locomotive, every passenger and baggage car. He will consult with his master mechanic, and often will decide which car or engine shall and which shall not be taken in for repair, etc. He has to plan and organize the work of every yard and every station. He must know the duties of each employe on his pay-rolls, and instruct all new men, or see that it is properly done. He must keep incessant and vigilant watch on the movement of all trains, noting the slightest variation from the schedules which he has prepared, and looking care-

fully into the causes therefor, so as to avoid its recurrence. The first thing in the morning he is greeted with a report giving the situation of business on the road, the events of the night, movement of trains, and location and volume of freight to be handled. The last thing at night he gets a final report of the location and movement of important trains; and he never closes his eyes without thinking that perhaps the telephone will ring and call him before dawn. During the day in his office he has reports to make out, requisitions to approve, a varied correspondence, not always agreeable, to answer.—*Scribner's*.

#### Why Is Cold Weather Healthful?

The hygienic virtues of cold climate have been but partly appreciated, and very little investigated scientifically. The bracing or stimulating effect of cold, in the weather or the bath, has been abundantly recognized, and even to indiscriminating and injurious excesses. But a more essential aspect of the subject comes into view with the unfolding secrets of microbial and malarial agencies. While the germicidal, or perhaps germ-paralyzing, power of frost has always been palpable and notorious, in yellow fever for instance, and other paludal diseases, its beneficent interference with slower agencies of the same kind; that undermine health by merely depressing vitality—agencies quite distinct, as we are about to show, from the relaxing effect of thermal changes, as commonly recognized—demands re-examination in the light of modern biology.

What is the meaning of an actual case like this? A sedentary, indoor occupation; apartment at an extraordinary elevation, moderately warmed and well ventilated at all hours; bodily heat kept uniform in all weathers by attention to clothing; in short, nothing owed to changes of temperature in the personal environment; but whenever the outside temperature has been below the freezing point, digestion has been about twice as efficient as in the clearest of the prevailing mild weather of the present winter, without going into the open air in either case. It seems evident from this that freezing suppresses something that is inimical to health, and which revives or is resupplied as soon as the temperature rises. Is not this something identical or homogeneous with the miasma of intermittent fevers, which is now classed among specific germs? If so, is there not a wide range of virulence in these germs, from the mild and transient vitiating influence above described to the most dangerous in fevers; dependent generally, as we know, on the climate, with heat as a peculiarly essential factor? And does not this indicate the chief hygienic advantage of solid northern winters?

Not only does frost destroy the microbes or paralyze their propagation, but the more concentrated oxygen of the dense cold air has also an evident agency in their suppression, according to the Pasteurian discovery of oxygen culture

as a means of incapacitating them for resistance to the germ-destroying power now found to be in the blood. Otherwise, when acclimated, as it were, to scant oxygen, they are able to survive and propagate within the system, were they work, with varied degrees of activity, in the following ways mentioned in a late paper by Dr. E. W. McGuire before the Virginia Medical Society: (1) As cell food [and oxygen] consumers; (2) As obstructionists interfering with the action of excreting organs; (3) By leaving poisonous excretions; (4) By tissue-disorganization wherefrom ptomaines result.

In consonance with the experience above cited of indigestion and acidity in soft weather, Baginsky, in a paper before the Berlin Medical Society, referring to indigestion of infants, states that the bacterium of the lactic fermentation causes the production of acetic acid and acetone, as well as lactic acid. The neutral lactates are changed to butyric acid; starch is not changed to sugar, nor casein or albumin decomposed. He proposes to name this bacterium the "acetic bacterium."—*Sanitary Era*.

#### Old Homes Are Best.

If one runs over the list of the persons known to him he finds very few of more than forty years old living in the houses in which they were born. Of the twenty houses built more than fifty years ago near my own, only one is lived in by the family by which it was originally occupied, while most of the others have had numerous successive owners or tenants. Of my own friends near my own age there are but two or three anywhere who live in the houses which their fathers occupied before them. This lack of hereditary homes—homes of one family for more than one generation—is a novel and significant feature of American society. In its effect on the disposition of the people and on the quality of our civilization it has not received the attention it deserves.

The conditions which have brought about this state of things are obvious. The spirit of equality, and the practices, especially in regard to the distribution of property, that have resulted from it; the general change in the standards of living arising from the enormous development of the natural resources of the country, and the consequent unexampled diffusion of wealth and material comfort; the rapid settlement of our immense territory, and the astonishing growth of our old as well as of our new cities, have been unfavorable to the existence of the hereditary home.

There is scarcely a town in the long-settled parts of the Northern States from which a considerable portion of its people has not gone to seek residence elsewhere. Attachment to the native soil, affection for the home of one's youth, the claims of kindred, the bonds of social duty, have not proved strong enough to resist the allurements of hope, the fair promise of bettering fortune, and the love of adventure. The in-